

----- the newsletter of the Sinclair Computer Users Society -----
SINCUS NEWS
 1229 Rhodes Road
 Johnson City, New York 13790
 ----- since 1982 -----

Jan meet: This editor was unable to stay for the meeting due to the flu bug, and the following is from a couple members who were there. Dave Shoenwetter presiding, approximately 12 attended the meet. A video provided by Don Lamen of the Northwest Computer Fest of 1987 was viewed in part. More will be shown at upcoming meets, to borrow this VHS tape contact Don. Dave Smith was selling his equipment, due to a career move to Florida. Wont you miss all this snow Dave? John Colonna unveiled swap tape #3, and reports tapes are available from the library, and swaps are available on disk and cassette. See page 11 for details. All public domain swap tapes/disks are efforts of members, programs culled from swaps with other user groups and programs typed from magazines, special efforts were made to assure credit given where due.

For those of you who have been following Wes Brzozowski's ROM disassembly, it will continue. Due to a very heavy work load, Wes has not been able to devote time to his hobby, or make meetings.

Feb meet: Again I was unable to stay for very long at the meet. But wow!, you guys didnt have to do all that! Thank you for the artwork, the check and very much thanks for the words. Being appreciated like that makes the work a little more fun, I keep asking if anyone one else wants the editor's job, and I think it is just so no one thinks I'm trying to hog it all! Dave tells me the rest of the video was shown. It has a lot of background noise, so while the pics are fine the info is lost.

Hello and Welcome to SINCUS NEWS to Howard Chequidden, Dover, NJ and Matthews Singer, Westland MI and a Hello again and Thank you for RENEWING to Stu Walton, Rowley MA; and Harold Crandall, Oxford CT, and Ken Diederich who is paid until Nov 1989 and finally to William Walker of Huntington, West VA who is now paid up until January 1990!! Thank you for your faith in us, Ken and Bill! I hope we are around somewhat beyond that year with our SINCLAIR still computing.

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page 2.....News,Views,1000 tips +	
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page 12..... Club notes, policy +	

NOTE to modem users: a number of BBSs are supporting a petition drive of modem users on the FCC's proposed TAX on modem use on telephone lines. There seems to be several versions of what is being proposed and there is much hype on what it means to modem users, I will will try to have in the next SINCUS NEWS what the proposal is and let you decide what it means to you.-PAH

ZX81/TS1000 Tips-by Don Lamen, SINCUS

3. Here is a little function, which may be placed at the beginning or within a machine code program, to stop the program until the tape player starts inputing data.

```
XXXX DBFE  HOLD: IN A, (FE)
      CB7F  BIT 7, A
      28FA  JR Z, HOLD
```

Where: XXXX represents the address.

4. This is a routine to set RAMTOP and then install your machine code above it. As an example lets say that you have 80 bytes of machine code in 1 REM and you want to install it at address 30000 [7530 hex].

<u>BASIC part:</u>	<u>UPLOAD Machine Code:</u>	
1 REM [your machine code]	40D8 213075	UPLOAD: LD HL, 7530; New RAMTOP
2 REM [UPLOAD machine code]	220440	LD(RAMTOP), HL
10) -- your	2B	DEC HL
---) -- BASIC	363E	LD (HL), 3E
---) -- program	2B	DEC HL
---) -- listing	3600	LD (HL), 00
8999 STOP	2B	DEC HL
9000 SAVE "name"	3606	LD (HL), 06
9010 RAND USR 16600	2B	DEC HL
9020 RUN	3676	LD (HL), 76
	220240	LD (ERR.SP), HL
	F9	LD SP, HL
	218240	LD HL, SOURCE
	113075	LD DE, DESTINATION
	015000	LD BC, No. of BYTES
	E8B0	LDIR
	C9	RET

34 Bytes

To determine the address of "UPLOAD", PEEK 16511 + 256 * PEEK 16512 + 4 using a direct command. Then add this number to 16514. The result will be the required address.

In my example there are no extra bytes in 1 REM. Therefore the PEEK would give 86. $16514 + 86 = 16600$

ED NOTE: This is the second in a series of hints and tips Don has gleaned from several years of digging away at his 1000. His ability to take one through a difficult subject is appreciated.

KNIGHTED COMPUTERS: Just got a flyer from them, they are updating their mailing list, and if you want to stay on it, drop them a note. Nice to know our neighbors to the north are still around and kicking. Their address is 10 Canalview Mall, Fulton, New York 13069, tel:(315)593-8219. They have new software and a bunch of oldies but goodies.

From Joan Kealy: Taken from CATS Newsletter Feb. 1988 in an open letter to the organizers of the upcoming TS Fest in Florida..." I just talked to Timex Service Center in Little Rock. They said they continue to try to take care of TS computers under warranty BUT would sell no SCLDs. ...if no SCLDs are available for extending the lifespan of 2068s. So why not try to muster enough customer signatures to pressure Timex Computer Corpse, holder of patents, to release the US based chip manufacturer from restrictions against the sale of SCLDs to repairmen, distributors, TSUGs, and/or TDM."

--Ed. Note: Joan raises a valid concern here, and maybe we can get together and push Timex. It will help those of us who love their 2068, and without a SCLD chip you have not much of anything. Ok, Joan you have our attention, now what? Why dont you draw up the letter, the due date and let's push!

?

Last issue I mentioned a reprint of an article by Nazir Pashtoon on Spectrum/TS2068 ROM addresses. Well, permission to reproduce them came too late to include in the last issue, so with thanks to SYNTAX's Kurt Olsen here is not only the ROM addresses but corrections to it!

All corrections are on page 5:

LABEL	SPECT	2068	LABEL
1. MASK_INT	0038	0038	
2. CLEAR_SP	1097	0BFD	DEL_K
3. MAIN_4	1303	0E8D	LED4

Thanks to the sharp eyes of these gentlemen the above corrections have been noted.

1. Kurt Olsen, SYNTAX
2. Jack Dohany, Jack's Fairware
3. Wes Brzozowski, SINCUS

-Jack's correction was copyrighted, but he has put it in to the public domain. Some unidentified soul wrote on my copy "SAVE and LOAD Routines in Spectrum- 04C2 to 0991. To Nazir Pashtoon who has done so much for the TS community, THANK YOU! The following article and tables are reprinted by permission, Copyright SYNTAX ZX80, Inc. 1984."

COMPARATIVE ROM ATLAS: FROM ZX SPECTRUM TO 2068

To convert SPECTRUM software to the 2068, you need the location and function of ROM routines in each. You can buy the annotated ROM disassembly from Melbourne House or Zebra Systems. Timex sells the 2068 technical manual. Our cross-index links the two ROMs.

This atlas lists routines in order of their hex address in the SPECTRUM ROM and provides the hex address for the corresponding 2068 routine. Labels and names for the SPECTRUM routines come from The Complete Spectrum ROM Disassembly by Ian Logan and Frank O'Hara. All labels and names for 2068 functions come from Corcoran and Branigin's Timex 2068 Technical Manual.

To disassemble the TS2068 Home ROM and 8K Extension ROM (EXROM), you will need a program like HOT Z (Reviewed in SYNTAX May 84). HOT Z has a large names file which you can load along with the program to

provide subroutine names and some labels for the disassembly. HOT Z self-starts in disassembly mode, to display the Home ROM from 0000h.

In order to disassemble or use EXROM routines, you must enable the bank-switching logic, perform the desired task, then de-activate the EXROM. The 8K EXROM overlays the first 8K chunk of the 16K Home ROM.

To illustrate, the following code copies EXROM to RAM at 8000h, from which you can disassemble or display it.

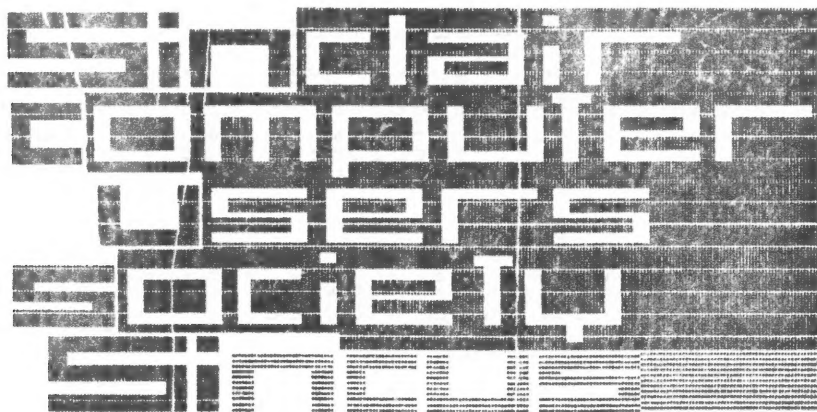
```
DI          : LD BC,2000
LD A,01     : LDIR
OUT (F4),A  : XOR A
IN A,(FF)   : OUT (FF),A
SET 7,A     : OUT (F4),A
OUT (FF),A  : EI
LD HL,0000  : RET
LD DE,8000  :
```

Headscan (SYNTAX Sep.84) MC is an example of EXROM use. If you want to change the header storage location in RAM, change LD IX,FA3C to, say, LD IX,8000.

Finally, a note concerning the cassette routines of the 2068. All are located in the EXROM, but use subroutines and RST's in the Home ROM. When a call to the Home ROM or RST occurs, bank switching must take place. This adds code to the SPECTRUM documented by Logan.

Corresponding to every CALL or RST in SPECTRUM cassette routines, you find, in the TS2068 EXROM, a 23-byte code segment which starts with PUSH IX and ends with POP IX. This code preserves and sets up registers and calls the service routine at 0F99h in the EXROM. The service routine transfers the calls to the bank switching code in 2068 RAM, which in turn completes the call to the Home ROM.

N. A. Pashtoon, Port Jefferson, NY



SPECTRUM			TS 2068			SPECTRUM			TS 2068			SPECTRUM			TS 2068			
LABEL, NAME	ROM Addr	ROM NAME	LABEL, NAME	ROM Addr	ROM NAME	LABEL, NAME	ROM Addr	ROM NAME	LABEL, NAME	ROM Addr	ROM NAME	LABEL, NAME	ROM Addr	ROM NAME	LABEL, NAME	ROM Addr	ROM NAME	
START	0000	0000	PLUCIN			CL-ATR	0E89	09C3	INDEXER	16DC	136B	SEARCH	136B	136B	NEXT-2-NUM	1C79	1BDC	DYADIC
ERROR-1	0008	0008	WRCH			CL-ADDR	0E9B	09D5	CLOSE	16E5	1374	SRCHSC	1374	1374	CLASS-06	1C82	1B5C	TEM6
PRINT-A-1	0010	0010				COPY	0EAC	0A02	K-DUMP	16E8	13A8	CLOSE	13A8	13A8	REPORT-C	1C8A	1B5D	SYNERR
GET-CHAR	0018	0018				COPY-BUFF	0EAD	0A23	DUMP-PR	1701	13BE	RSTSTR	13BE	13BE	CLS-0A	1C8C	1B5F	TEH10
NEXT-CHAR	0020	0020				CLEAR-PRB	0EAF	0A35	CL-PR	1736	142A	CLCHAN	142A	142A	PERMS	1C96	1B59	
FP-CALC	0028	0028				COPY-LINE	0EB7	0A57	EDIT-K	1750	145E	OPEN	145E	145E	FETCH-NUM	1CDE	1C49	OPTHO
BC-SPACES	0030	0030				EDITOR	0E2C	0A82	OPEN-2	175D	1465	OPEN-2	1465	1465	USE-ZERO	1CE6	1C51	STK-0
* MASK-INT	0038	0030				ADD-CHAR	0E31	0A17	INSA	1793	25C8	CAT	25C8	25C8	STOP	1CEE	1C59	STOP
	004F	004F	PHLAF			ED-EDIT	0E49	0B12	CAT-ETC.	1793	25C8	CAT	25C8	25C8	IF	1CE0	1C5B	
	0053	0053				ED-DOWN	0E53	0B59	LLIST	17F5	14E1	LIST	14E1	14E1	FOR	1D03	1C78	FOR
	0055	0055				ED-LEFT	1007	086B	LLIST	17F5	14E1	K-LLST	14E1	14E1	LOOK-PROG	1D86	1D28	SKIP
	0066	0066				ED-DELETE	1015	0B78	LLIST	17F9	1545	K-LIST	1545	1545	NEXT	1D55	1D55	NEXT
	0070	0070				ED-ENTER	1024	088A	DEL-SYN	1800	154C	IPO	154C	154C	READ	1DEC	1D96	READ
	0074	0074	HEXTCH			ED-EDGE	1031	0897		1855	1541	PUT-SR?	1541	1541	DATA	1E27	1E82	DATA
	0077	0077	NC-HL			ED-UP	1039	08BF		187D	15C9	PUT	15C9	15C9	RESTORE	1E42	1E9D	RAND
	0078	0078	TC-HL			ED-SYMBOL	1076	08DC		1886	1602		1602	1602	RANDOMIZE	1E4F	1ED4	RAND
	007D	007D	TOKENS			ED-ERROR	107F	08E9	DEL-K	18C1	160D	FLASHA	160D	160D	REST-RUN	1E45	1ECA	RESTBC
	0095	0098				CLEAR-SP	1097	08FE	IN-K	190F	162D	PR-CUR	162D	162D	CONTINUE	1E5F	1EE4	CONT
	0227	0245				KEY-INPUT	10A8	08E0	IN-K	191C	1638	NEXT-L	1638	1638	GO TO	1E67	1EE1	JUMP
	028E	0280	K-SCAN			ED-COPY	111D	0C83	ECHO	191C	1638	DE-HL	1638	1638	OUT	1E7A	1F04	
	028F	02E1	UPD-K			REMOVE-FP	11A7	0D1D	IN-K	1925	1671	FIND-L	1671	1671	POKE	1E80	1F0A	
	0310	0336				START/NEW	11B7	0D1D	ECHO	1980	1658	CP-BC	1658	1658	FIND-INT1	1E94	1F1E	FIX-U1
	0333	0371	K-BASE			NEW	11C8	0D31	INIT	1988	16F3	SUBLIN	16F3	16F3	FIND-INT2	1E99	1F23	FIX-U
	0385	03F3	CHCODE			RAM-SET	1219	0E2F	NEW	1988	1720	RECLEN	1720	1720	REPORT-8	1E9F	1F29	ERRB
	038F	0436	PARP			MAIN-EXEC	12A2	0E28	LED16	19D0	1745		1745	1745	CLEAR	1F36	1F36	CLEAR
	0394	0500	SEND-TV			MAIN-1	12A9	0E2F	LED4	19E5	174D	DEL-DE	174D	174D	CLEAR-RUN	1EAF	1F39	CLR-BC
	0423	0534	P-LFT			MAIN-4	1303	0E08		19E8	1750	DELREC	1750	1750	COSUB	1EED	1F99	CO-SUB
	043D	0554	P-RT			REPORT-MSG	1391	0F65	CHINIT	19F8	1788	LINENO	1788	1788	TEST-ROOM	1F05	1FBB	CHK-SZ
	044F	0566	P-NL			MAIN-ADD	13DD	1158	SMINIT	1A18	1788	PUT-BC	1788	1788	REPORT-4	1F15	1FC7	ERR4
	045F	0576				CH-INFO	13AF	11A4	RDCH	1A28	1795	PU-LN	1795	1795	RETURN	1F23	1FD4	RETURN
	0469	0580				INIT-STR	13C6	11C1	INCH	1A30	179D	SYNTAX	179D	179D	PAUSE	1F3A	1FEF	PAUSE
	046D	0584				WAIT-KEY	13D4	11CF	RDCH	1A30	179D	LS4	179D	179D	BREAK-KEY	1F54	2009	BREAK
	049B	0582	SET-AT			INPUT-AD	13E6	11E1	INCH	1B17	1A27		1A27	1A27	DEF FN	1F60	201D	DEF
	0AD9	05F0				OUT-CODE	13EF	11EA	PUTDIC	1B28	1A44		1A44	1A44	***	2128	2128	SOUND
	0ADC	05F3	STTVCU			PRINT-A-2	13F2	11ED	SENDOCH	1B28	1A44	EXCUTE	1A44	1A44	UNSTACK-2	1FC3	214F	
	0B24	0638	LDTVCU			CHAN-OPEN	1601	1230	ERR0	1B76	1A89		1A89	1A89	LPRINT	1FC9	2155	K-LPR
	0B7F	0684				REPORT-0	160E	123D	ERR0	1AEC	1B9E		1B9E	1B9E	PRINT	1FCD	2159	K-PRN
	0C0A	073F				CHAN-FLAG	1615	1248	SEL-HL	1B82	1B00		1B00	1B00	PRINT-2	1FDF	217E	P-SEQ
	0BDB	0710	ATTBYT			CHAN-K	1634	129A		1B82	1B00		1B00	1B00	PRINT-CR	1FF5	2194	
	0C0A	073F	PUTMES			CHAN-S	1642	12A9		1B83	1B09		1B09	1B09	PRINT-ITEM1	1FFC	2198	
	0C3B	0776	PR-TV2			CHAN-P	164D	12B3		1B83	1B09		1B09	1B09	PR-STRING	203C	210B	
	0C41	077C				ONE-SPACE	1652	1288	INS1	1B83	1B09		1B09	1B09	PR-END-Z	2045	21E4	
	0C55	0790	TVFUL?			MAKE-ROOM	1655	1288	INSERT	1B83	1B09		1B09	1B09	PR-ST-END	2048	21E7	
	0C86	07C1	ERR5			POINTERS	1654	12CA	REMG5Z	1B83	1B09		1B09	1B09	PR-POS-1	204E	21ED	
	0D4D	0895	R-ATTS			LINE-ZERO	165F	131E	REMG5Z	1B83	1B09		1B09	1B09	STR-ALTER	2070	220F	STRITO
	0D6B	08A6	K-CLS			LINE-NO	1695	1324	GET-LN	1C1F	1B82		1B82	1B82	INPUT	2089	2228	INPUT
	0D6E	08A9	CLLHS			RESERVE	169E	132D	LCU2	1C2E	1B91		1B91	1B91	IN-ITEM-1	20C1	226B	I-SEQ
	0DAF	08EA	CLS			SET-MIN	1680	133F	CLEL	1C59	1B8C		1B8C	1B8C				
	0DD9	0914	SET-CUR			SET-WORK	16BF	134E	X-CALC									
	0DDF	0939	REC-EDIT			REC-EDIT	16D4	1363	X-T-HL									
	0E44	097F	CLS-B			SET-STK	16C5	1354	RESET									

* see correction notes at beginning of article

Printing problems made parts of the Spectrum - TS 2068 very difficult to read, hopefully you will be able to use ~~this~~ the table with this reprint:

page 4:

Spectrum		TS2068		Spectrum		TS2068	
LABEL	ROM	ROM	LABEL	LABEL	ROM	ROM	LABEL
Name	addr	addr	Name	Name	addr	addr	Name
PRINT-A-1	0010	0010	WRCH				
				COPY-BUFF	0ECD	0A23	K-DUMP
				CLEAR-PRB	0EDF	0A35	CLPR
				COPY-LINE	0EF4	0A4A	PRSCAN

ED-RIGHT 100C 0B73

THE MAJORITY OF THE PAGES SEEMED TO HAVE THE ABOVE PRINT PROBLEMS, IF YOU HAVE A PROBLEM WRITE ME, AND I'LL SEND YOU THE LINES YOU CANNOT READ.

TIME X EXROM

SPECTRUM			TS 2068			SPECTRUM			TS 2069			SPECTRUM			TS 2069				
LABEL, NAME	ROM Addr	ROM Name	LABEL, NAME	ROM Addr	ROM Name	LABEL, NAME	ROM Addr	ROM Name	LABEL, NAME	ROM Addr	ROM Name	LABEL, NAME	ROM Addr	ROM Name	LABEL, NAME	ROM Addr	ROM Name		
IN-ASSTGN	2189	2363	ALPHANUM	2C88	30A6	ALNUM?	30A6	ALNUM?	peek	3A4C	3868	SA-BYTES	04C2	0068	W-TAPE	04C2	0068		
REPORT-H	2104	237E	ALPHA	2C8D	3048	ALPHA?	3048	ALPHA?	usr-no	34B3	3872	SA-LEADER	04D8	007E	W-TAPE	04D8	007E		
IN-CHAN-K	2106	2380	DEC-TO-PP	2C9E	3059	ALPHA?	3059	ALPHA?	usr-S	34B3	3872	SA-LEADER	04D8	007E	W-TAPE	04D8	007E		
CO-TEMP-1	21E1	2388	NUMERIC	2D1B	30D9	STKSUM	30D9	STKSUM	TEST-ZERO	34E9	3904	SA-BIT-2	0511	0087	W-TAPE	0511	0087		
CO-TEMP-2	21E2	238C	STK-DIGIT	2D22	30E0	DIGIT?	30E0	DIGIT?	GREATER-0	34F9	3914	SA-8-BITS	0525	00C8	W-TAPE	0525	00C8		
CO-TEMP-4	21FC	23A6	STACK-A	2D28	30E6	STK-A	30E6	STK-A	NOT	3501	391C	SA/LD-RET	053F	00E5	W-BORD	053F	00E5		
CO-TEMP-7	2234	23DE	STACK-BC	2D2B	30E9	STK-BC	30E9	STK-BC	less-0	3506	3921	REPORT-0	0552	00F8	R-TAPE	0552	00F8		
CO-CHANGE	226C	2416	INT-TO-PP	2D38	30F9	ININT	30F9	ININT	FP-0/1	3508	3926	LD-BYTES	0556	00FC	R-TAPE	0556	00FC		
BORDER	2273	241D	E-TO-PP	2D4F	3100		3100		or	3518	3936	LD-BREAK	0568	0111	R-TAPE	0568	0111		
****	2294	243E	INT-FETCH	2D7F	3130	LDDE	3130	LDDE	no-&-no	3524	393F	LD-LEADER	0580	0126	R-TAPE	0580	0126		
****	****	24D2	P-INT-STU	2D8C	314A	STDE-U	314A	STDE-U	str-&-no	352D	3948	LD-LEADER	0580	0126	R-TAPE	0580	0126		
PTXFL-ADD	22AA	26D3	INT-STORE	2D8E	314C	STDE-S	314C	STDE-S	str-1-eql	353B	3956	LD-8-BITS	05CA	0170	RD-BIT	05CA	0170		
POINT	22CB	2624	FP-TO-BC	2DA2	3160	FP2BC	3160	FP2BC	stks-add	359C	3987	LD-EDGE-2	05E3	0189	RD-BIT	05E3	0189		
PLOT	22DC	2635	LOG(2+A)	2DC1	317F	FP2A	317F	FP2A	STK-PNTRS	358F	39DD	LD-EDGE-1	05E7	018D	RD-EDGE	05E7	018D		
PLOT-SUB	22E5	263E	FP-TO-A	2DD5	3193	FP2A	3193	FP2A	chrS	35C9	39E4	LD-SAMPLE	05ED	0193	RD-EDGE	05ED	0193		
STK-TO-BC	2307	2660	PRINT-PP	2DE3	31A1	OUTPUT	31A1	OUTPUT	val-&-vals	35DE	39F9	SAVE-ETC	0605	01AB	SLVM	0605	01AB		
STK-TO-A	2314	266D	CA=10+A+C	2F88	334A		334A		strS	361F	3A3A	REPORT-F	0642	0228	SLVM	0642	0228		
CIRCLE	2320	2679	PREP-ADD	2F9B	335A	SUMSLD	335A	SUMSLD	read-in	3645	3A60	SA-NAME	0648	0231	SLVM	0648	0231		
DRAW	2382	26DB	FEICH-TWO	2FBA	3379	SHIFT	3379	SHIFT	code	3669	3AB4	SA-DATA	0652	0238	SLVM	0652	0238		
CD-PRMSI	2477	27D6	SHIFT-PP	2FDd	339C		339C		len	3674	3AB5	SA-V-OLD	0672	029A	SLVM	0672	029A		
DRAW-LINE	2487	2810	ADD-BACK	3004	33C3		33C3		dec-jr-nz	367A	3A95	SA-V-NEW	0685	02A9	SLVM	0685	02A9		
SCANNING	24FB	2854	SUBTRACT	300F	33CE	SUB	33CE	SUB	JUMP	3686	3AAA	SA-SCRS	06A0	02F2	SLVM	06A0	02F2		
SYNTAX-2	2530	2889	addition	3014	33D3	ADD	33D3	ADD	jump-true	368F	3AAA	SA-CODE	06C3	032E	SLVM	06C3	032E		
S-ATTR-5	2580	29D7	HL=HL+DE	30A9	3468	MULT	3468	MULT	end-calc	369B	3AB6	SA-LINE	0716	0447	SLVM	0716	0447		
S-U-PLUS	25AF	296D	PREP-M/D	30C0	347F		347F		n-mod-m	36A0	3AB8	SA-ALL	075A	04C9	SLVM	075A	04C9		
S-LETTER	26C9	2A87	multiply	30CA	3489		3489		int	36AF	3ACA	LD-LOOK-H	0767	04D6	SLVM	0767	04D6		
S-FN-SBRN	27B0	2878	REPORT-6	31AD	356C	ERR6	356C	ERR6	EXP	36C4	3ADF	LD-NAME	07A6	053D	SLVM	07A6	053D		
S-SCREENS-S	2535	288E	division	31AF	356E	DIVIDE	356E	DIVIDE	IN	3713	3B2E	VR-CONTROL	07CB	058F	SLVM	07CB	058F		
S-RND	25F8	2986	truncate	3214	35D3	TRUNC	35D3	TRUNC	get-argt	3713	3B2E	LD-BLOCK	0802	05C6	SLVM	0802	05C6		
S-PI	2627	29E5	RE-ST-TWO	3293	3052		3052		cos	37AA	38C5	LD-CONTROL	0800	05CC	SLVM	0800	05CC		
FN-SKPOVER	2634	29F2	multiply	30CA	3489	TIMES	3489	TIMES	tan	37BA	38D5	LD-DATA	082E	0606	SLVM	082E	0606		
LOOK-VARS	28A8	2C69	RE-STACK	3297	3656	FLOAT	3656	FLOAT	sin	37DA	38F5	ME-CONTROL	08B6	06E5	SLVM	08B6	06E5		
STK-F-ARG	2882	2C70	FP calculator start:						atan	37E2	38FD	ME-OLD-VP	08F9	0752	SLVM	08F9	0752		
STK-W-VAR	2951	2D0F	CALCULATE	32C5	3684	CTRO	3684	CTRO	asn	3833	3C4E	ME-ENTER	092C	0799	SLVM	092C	0799		
SLICING	2996	2D54	fp-calc-2	335B	371A		371A		acs	3843	3C5E	ME-ENT-1	093E	07CF	SLVM	093E	07CF		
STK-ST-0	2A52	2E10	TEST-5-SP	33A2	3761	ROOM?	3761	ROOM?	sqr	3844	3C65	ME-ENT-3	0958	0925	SLVM	0958	0925		
STK-STO-1	2AB2	2E70	STACK-NUM	3384	3773	STK-M	3773	STK-M	to-power	3851	3C6C	SA-CONTROL	0970	0851	SLVM	0970	0851		
STK-STORE	2AB6	2E74	MOVE-PP	33C0	377F	RAMHO	377F	RAMHO	****	3C89	SEPRMT	SA-I-SEC	0991	089A	SLVM	0991	089A		
INT-EXP-1	2AB8	2E7A	STK-DATA	33C6	3785		3785		(note:SEPRMT are tape										
DE, (DE+1)	2ACE	2EAC	SKIP-CONS	33F7	37B6	'EMPT'	37B6	'EMPT'	'spare'	386E	3CDC								
GET-HL*DE	2AF4	2EB2	LOC-MEM	3406	37C5	ARRAY	37C5	ARRAY	charctr-set	3D00	3D00	CH-SET							
LET	2AFF	2EB2	get-mem-0	3406	37C5		37C5		The Spectrum does not support										
L-ENTER	2BAF	2FD6	stk-zero	341B	37DA		37DA		the following routines:										
L-ADD-\$	2BAF	2FD6	st-mem-0	342D	37EC	****	37EC	****	****	17B5	AROS								
L-STRING	2BC6	2F84	EXCHANGE	343C	37FB	****	37FB	****	****	17CF	GETAL								
L-FIRST	2BC6	2F84	series-06	343C	37FB	****	37FB	****	****	17EA	AR-LN								
STK-FETCH	2BF1	2FAF	NEGATE	346E	3829	NEGATE	3829	NEGATE	****	17FF	AR-NXT								
DIM	2C02	2FC0	9n	3492	3851		3851		****	18C6	AAROS								
			In	34A5	3864		3864		****										

The balance of EXROM contains the Function Dispatcher, Bank other routines, which does not have counterparts in the Spectrum. A total of approximately 2K Bytes of EXROM is unused.

```

2 REM "Lotto by Paul Hill, Feb. 1985 Johnson City, NY (SINCUS)
8 REM ++set array of 44++
10 DIM m(4,11)
15 LET n=PI/PI
20 FOR a=1 TO 4
30 FOR b=1 TO 11
40 LET m(a,b)=n
50 LET n=n+1
60 NEXT b
70 NEXT a
100 REM ++place numbers++
104 FOR t=1 TO 2
105 LET r=2
120 FOR a=1 TO 4
125 LET c=0
130 FOR b=1 TO 11
140 PRINT AT r,c;m(a,b)
143 LET c=c+3
148 IF c>31 THEN LET c=0
150 NEXT b
160 LET r=r+2
170 NEXT a
200 REM ++move cursor "↑"++
202 DIM s$(6,2)
205 FOR s=1 TO 6
220 PRINT AT 19,0;"Use Arrow KEYS to move cursor-↑"
225 PRINT "" "ENTER" KEY to select number"
280 LET r=3: LET c=0: LET a$="↑"
281 PRINT AT r,c;a$: FAUSE 0: PRINT AT r,c;" "
282 LET c=c+3*((INKEY$="8" AND c<30)-(INKEY$="5" AND c>0))
284 LET r=r+2*((INKEY$="6" AND r<9)-(INKEY$="7" AND r>3))
289 IF INKEY$=CHR$ 13 THEN GO TO 300
292 GO TO 281
300 REM ++save number in s$++
320 PRINT AT r,c;a$
340 LET s$(s, TO 2)=STR$ m((r-1)/2,(c/30*10+1))
342 IF s>=2 THEN GO SUB 400
345 PRINT AT 15,0; INVERSE 1;"Your pick of Lotto numbers"
350 PRINT AT 16,s#3;s$(s, TO 2);" ";
352 PRINT AT r-1,c; ERIGHT 1; INVERSE 1;s$(s, TO 2)
355 PRINT AT r,c;" "
356 LET r=3: LET c=0
360 NEXT s
365 CLS
370 NEXT t
390 STOP
400 REM ++chek for repete++
410 FOR w=1 TO s-1
420 IF s$(s, TO 2)=s#w, TO 2) THEN GO TO 450
430 NEXT w
440 RETURN
450 REM ++ reset for repete ++
460 PRINT AT r,c;" "
470 PRINT FLASH 1; AT 15,13;"REPEAT"
490 GO TO 205

```

USE CURSOR TO SELECT FROM A LIST

In the Sept/Oct 87 Sincus News, "A Cursor Pad" described how a home-made "Cursor Pad" (or a joystick) could be used to move the cursor on the screen and thereby select one item from a list.

That demo program was valid only if the list did not exceed 20 items. This program will work with a list of any length.

The routine DISPLAY LIST, from 230 TO 250, breaks up the list into pages of no more than 19 items. It also adds "PAGE BACK" to the top of the page for pages after the first, and "PAGE FORWARD" to the bottom of the list for all but the last page.

The routine "SELECTOR", from 200 to 222, uses input from the right-hand joystick port to move the cursor up and down the page. The firing button registers the selection. If the selection is either "PAGE BACK" or "PAGE FORWARD", then another portion of the list appears on the screen.

If you prefer the keyboard to the joystick port, you need to change only two statements:

```
206 LET s2=CODE INKEY$: LET s1=1*(s2=55)+2*(s2=56)+3*(s2=13)
```

```
216 IF s1=0 THEN GO TO 206
```

Now the 6 and 7 keys will control the motion of the expanded cursor, and ENTER determines the selection.

This SELECTOR routines differs in two respects from the one in the previous article. First: the cursor will jump from the top to the bottom of the displayed page (and vice-versa); this speeds the search for the proper page. Second: the motion of the cursor is limited by blank lines at the top and bottom of the display. This idea came to me from Chuck Dawson and/or Lafe McCorkle through a newsletter written by Ron Havlen for users of the Portuguese Disk System.

Hal Bellinson

```
1 REM ** SELECTOR DEMO **
2
10 GO SUB 400
15
50 REM USE SELECTOR
60 GO SUB 230
70 CLS: PRINT A$(1): STOP
80
200 REM SELECTOR
202 LET m4=m2-m1+2: IF m1=1 OR
m2=N THEN LET m4=m4-1
204 OVER 1: DIM s$(6): GO SUB 2
22
206 LET s1 = STICK (1,2): LET s
= STICK (2,2)
208 IF s1=2 AND SCREEN$ (1+1,0)
s$ THEN LET j:=1: GO TO 220
210 IF s1=2 THEN LET j:=m4: GO
TO 220
212 IF s1=1 AND SCREEN$ (1-1,0)
s$ THEN LET j=-1: GO TO 220
214 IF s1=1 THEN LET j:=m4: GO
TO 220
216 IF s2=0 THEN GO TO 206
218 OVER 0: RETURN
220 GO SUB 222: LET i=i+1: GO S
UB 222: GO TO 206
222 PAUSE 5: PRINT AT i,0: INVE
RSE i:s$: RETURN
225
230 REM DISPLAY LIST
232 LET m3=19: LET m1=1: LET m2
=m3
234 CLS : IF m2>N THEN LET m2=
N
236 LET m4=(m1=1): PRINT AT m4,
0:" "
238 IF m1>1 THEN PRINT "PAGE B
ACK"
240 FOR j=m1 TO m2: PRINT A$(j)
: NEXT j
242 IF m2<N THEN PRINT "PAGE F
ORWARD"
244 LET i=2: GO SUB 200
246 IF i>1 AND i-m3+2 THEN LET
i=i-m1-2: RETURN
248 IF i-m3+2 THEN LET m1=m2+1
: LET m2=m2+m3: GO TO 234
250 IF i=1 THEN LET m2=m1-1: L
ET m1=m1-m3: GO TO 234
255
400 REM CREATE LIST
410 LET N=50: DIM A$(N,7)
420 FOR I=1 TO N
430 LET A$(I)="ITEM "+STR$ I
440 NEXT I: RETURN
```


OLIGER 2068 DISK SYSTEM PRICES AND BASIC INFORMATION

OLIGER DISK I/F W/JLO SAFE SPECIFICATIONS

DISK BOARD "A"
 Bare pc only: \$17.95pp
 Kit of board with parts: \$55.95pp
 Assembled & tested: \$66.95pp
 Two drive data cable for above, 3 foot long total: \$16.95pp
 Four drive data cable for above, 4 foot long total: \$26.95pp
 MD1770Pi-00 disk controller chip: \$19.95pp (spare or replacement - limit 1 per order)

DISK BOARD "B" W/MI SAVE
 Bare pc with JLO SAFE Disc Basic eprom: \$26.95pp
 Kit of board with parts: \$45.95pp
 Assembled & tested: \$63.95pp
 PACKAGE OF BOTH DISK BOARDS "A" & "B" W/MI SAVE
 Bare pcs only with JLO SAFE Disk Basic eprom: \$43.95pp
 Kit of both boards with parts: \$99.95pp
 Both boards assembled & tested: \$127.95pp

Both boards, assembled & tested w/2-drive data cable: \$139.95pp
 The DiskWorks! Both bds assd w/2-drv data cable & assd 2068 Expansion Bd: \$189.95pp

FACTS CONCERNING THE OLIGER 2068 FLOPPY DISK SYSTEM-
 Both printed circuit boards feature plated through holes, no jumper wires, and connect these boards to your TS2068 computer.

The JLO SAFE (Simple And Fast Extended) Disk Basic V2 eprom supplied with the Disk "B" board was written by John Olinger for use on this system. SAVING & LOADING using JLO SAFE V2 is very straightforward, using the EXACT same syntax as the regular cassette commands use, but with the character "J" following the SAVE/LOAD command. An example of SAVING a Basic program with variables would be SAVE /"FILENAME" OR SAVE /"FILENAME" LINE n. JLO SAFE V2 supports ALL the various types of SAVE/LOADS programs (regular & autorun), CODE/SCREEN\$ files (LOADED with SAVED defaults to use if LOADING parameters are not specified, just as the cassette commands do), numeric arrays, character arrays (DATA), and two NEW types of files: VAL for variables SAVE/LOAD and ABS for TOTAL STATE SAVE/LOADS (IE: EVERYTHING IS LOADED OR SAVED!) JLO SAFE V2 supports up to 177 files per disk (plus a special file 0) and its total formatted capacity is variable depending on the type of drive used with the system. SAFE V2 can support disk track densities up to 255 tracks/double sided (if they existed now) or as small as 10 track single sided if such a small capacity drive existed. Using a 80 track double sided drive with SAFE set for 80 track/double sided, 795K of formatted disk space is free on a newly formatted disk. If you can squeeze 83 tracks out of your drive, you will end up with 825K of formatted disk space! A 40 track double sided drive will leave you 395K of free disk space at 40 tracks and a 40 track single sided drive will leave 195K of free disk space at 40 tracks.

SAVE/LOAD speed is as fast or faster than any other 2068 DOS available. SAFE V2 can SAVE/LOAD 48K in less than 4 seconds total. SAFE V2's CATALOG can display every file currently stored on the disk, with the familiar "scroll?" prompt used just like is normally done with a long basic listing.

This disk I/F w/JLO SAFE V2 is compatible with the 2068 in regular 2068 mode. Spectrum emulator/Romswitch mode, or Zebra OS64 cartridge mode, SAFE sets itself up to support any of these configurations on power up, totally transparent to the user. JLO SAFE will also work w/all AROS cartridges and has built-in software support for the Olinger 2068 Printer Port; No more loading of printer drivers! But, you CAN still use your 2040 printer as usual with SAFE V2 if desired.

Also now STANDARD on the Olinger 2068 Disk I/F is the MI pushbutton SAVE feature allowing the use of the Disk I/F with just about every piece of software a person could have at the press of a button. This Disk I/F w/SAFE V2 can support up to 4 double density 3 1/2, or 5 1/4" drives. In summary, the Olinger 2068 Disk I/F w/JLO SAFE V2 is very likely the fastest most user friendly disk system available for the 2068, and will work transparently with AROS cartridges, be the Olinger User Cartridges or Timex Command Cartridges. In my opinion, it is simply the BEST disk system available for the TS2068.

John L. Olinger (You can read about the system better for buy!)

Number of drives supported: 1, 2, 3, or 4
 Number of sides per drive: 1 or 2

Number of tracks per side: 10 - 255 allowed. Most drives allow only 40 or 80.
 Amount of 2068 ram or memory space used by DOS: NONE

Booting of DOS required?: NO. SAFE is contained on an eprom in another bank.
 SAVE/LOAD transfer speed: 250K bits per second (32K bytes per second)

True LOAD speed with DOS overhead: 48K bytes in approx. 4 seconds
 True SAVE speed with DOS overhead: 48K bytes in approx. 1 second (Auto Verifys)

Formatted capacity per disk: 40 track double sided=395K
 80 track double sided=795K
 83-track double sided=825K
 40 track single sided=195K

Maximum number of files allowed per disk: 177

Disk allocation cylinder size: 5K

Double Density: YES, always
 Compatible with Spectrum mode 2068?: YES

Compatible with OS64 cartridge?: YES

Compatible with AROS cartridges?: YES

Snapshot SAVE?: YES

Other functions supported by snapshot SAVE button? YES. Also supports a SCREEN\$ SAVE to disk, a screen copy to the Olinger Printer Port, or a return to Basic.

Big printer support built in? YES. Supports Olinger Printer Port and some combinations of the Aercro Printer I/F used with some printers.

File types supported by DOS: ALL cassette type files are supported in all the possible combinations along with a new variables only SAVE/LOAD and total state (everything) SAVE/LOAD.

Command Syntax easy to learn? YES. SAVE/LOAD commands are EXACTLY as is required for the cassette commands but with the "/" character immediately after the SAVE or LOAD keyword. EG: SAVE /"Program" LINE 1 or LOAD /"screen" SCREEN\$

THE JOHN OLIGER CO.
 11601 Whidbey Drive
 GUIMBERLAND, INDIANA 46229
 :fordable H/W Expansion

NEW for your TS2068 from LARKEN ELECTRONICS

**** The LARKEN 256K RAMDISK ****

Finally available for the 2068 is a practical memory expansion that can be used with all 2068/spectrum software. The Larken Ramdisk system is as easy to use as a tape recorder or floppy disk.

When Timex originally designed the 2068 they planned on having an expansion buss system that would allow extra memory and other peripherals such as disk microdrives etc to be easily added and linked to the 2068's operating system. However they never did complete this proposed operating system due to the cancellation of production of the 2068. Even if they had it we can't have a more compatible, so only programs written for the 2068 would work on it.

The Larken ramdisk system consists of the LKDOS cartridge (Larken disk operating system) and a rear mounted NON-VOLATILE memory board. The LKdos cartridge allows you to access the ram disk with all the standard BASIC commands such as LOAD SAVE CAT ERASE FORMAT MERGE etc. The LKdos lets the ram board emulate a very fast floppy disk. It can load 32K bytes in 1.5 seconds. Programs can be saved, loaded or merged just as you do with a floppy disk and the LKdos keeps a catalog of all files on the ramdisk which is accessible by the Cat command. All the standard cassette type commands for Basic Code or Arrays are used. The command Print #4: is placed in front of the cassette type command to direct it to Ramdisk instead of cassette. eg: Print #4: Load filename SCREEN\$

The Memory board mounts on the rear buss of the 2068 and has a 62256-1P chip. These cost approx \$11 - 12\$ each in the US. They come with 64K (2 chips) but the user can add up to 6 more for a total of 256K. There are 4 sockets on the board so the first 128K bank can be just plugged in but the 2nd 128K must be piggybacked (and soldered) onto the back of the 1st bank. A board with 128K or 256K installed can also be supplied on special order.

The memory board is fully Battery Backed up by 2 'AA' batteries on the board. These will retain data for months. A special automatic Write Protect circuit protects data during power up or down. The board is very reliable and can even be removed from the computer and transferred with out losing data. The data on the ramdisk is also sumchecked by Lkdos so files can be verified. The memory board is mapped into the upper 32K of the cartridge bank. A port on the board can select 1 of 8 banks of 32K. This memory could also be used by the user to contain a Apos software Ram file name of the banks while not interfering with the ram disk operation.

The Ramdisk is fully compatible with the Larken Floppy Disk Interface and also Ramex and Oliger disk systems. If they are using the Lkdos cartridge as their DOS. When used with a floppy disk system, the Goto command is used to select the current drive. All programs and utilities written for the floppy disk are fully compatible with the ramdisk.

It is also Spectrum and OS64 compatible. Besides having the operating system for the ramdisk the Lkdos cartridge also has 10 Extended Basic commands for windows, graphics and utilities. A NHI snapshot push button can even be added to the Ramboard so any program can be transferred to ramdisk with the push of a button. A program is also included to download the contents of the ram disk to cassette or floppy disk.

All Larken products have a 90 day money back guarantee.
PRICES: --RAMDISK (with 64K) and LKDOS\$129.95
--Memory board only (64K) adding to existing \$79.00
--Complete Lkdos storage system -400K floppy \$79.00
--disk interface, Ramdisk (64K) and LKDOS\$179.95

All prices are (\$US), add \$5 shipping
LARKEN ELECTRONICS, RR#2 NAVAN ONTARIO CANADA K4B-1H9.
(613)-835-2680

LARKEN 2068/SPECTRUM PRODUCTS

LKDOS -EXTENDED BASIC Cartridge is fully Spectrum compatible. It resides in the cartridge dock but is not a LKOS or AROS. It shadows an area of the Sinclair Rom and takes over control when its commands are used. Other cartridges such as the OS-64 or Spectrum emulators can still be used with a modification. The LK-EXBC uses none of your program ram as it has its own 8K ram and 8K rom on the cartridge. Keyboard commands All commands, LKDOS extended BASIC commands, keyboard commands preceded by PRINT #4: Log, PRINT #4: FORMAT, etc. will appear on the floppy disk drive as well as a 256K memory buffer. The dos automatically keeps a catalog of all files on disk and takes care of all file space allocation etc. Basic Code and Array file types are handled the same way as the cassette.

Commands for LKDOS are LOAD,SAVE, CODE,ARRAY,SCREEN\$,MERGE, LINE,CAT,FORMAT,ERASE,VERIFY,PRINT,GOTO,OPEN,CLOSE Also any program can be transferred to disk with the push of a button (Using NHI save push button on disk interface).

Extended Basic commands are regular commands redefined when Programmer #4: PRINT #4: (pattern) -is now a graphic Fill command with 10 different patterns. Other commands include: multiple windows, Box clear and fill Channel, opening file Disk,Printer and screen, variations of Poke, -Print, and is also available for the Aerco Ramex and Oliger disk systems when the cartridge is installed, they will emulate a Larken Disk system.

NEW 400K 2068/Spectrum Disk Interface (DSK-400) This double density disk interface will put 400K on a double sided 40 track drive. It can control up to 4 - 3", 3.5" or 5.25" single sided, double sided or quad density drives. This board is a compact low profile design that connects to the rear buss on the 2068 and has a thru connector. It can load 32K in less than 5 seconds. The NHI (snap shot) pushbutton is on the board and there is also a KEMPSION compatible joystick port on the board. The LKDOS cartridge is used to control this interface. The Lkdos cartridge combined with this interface will give you a 2068/Spectrum disk system second to none.

ZX81 / TS1000 Disk Controller Board 1000/1500 will put 160K on a double sided 5.25" drive for the ZX81 and 160K on a double sided 5.25" drive for the TS1000. It can also be used on ribbon cable and can control 2 drives. It can also be used on the 2068 if the LKDOS cartridge is also installed. For the ZX81 the LKdos on the interface provides 6 commands. They are LOAD,SAVE, DIRECTORY, DELETE, FORMAT and EXIT. Basic Arrays and Code files are also supported. (This board is great if you use both 2068 and ZX81)

256K Nonvolatile Ramdisk This memory extension is as easy to use as a Floppy disk or tape recorder. This rear mounted memory board also uses the Lkdos cartridge for its operating system. The PRINT #4: GOTO (device) command is used to direct the Dos to Floppy disk or Ram disk. All LKDOS floppy disk commands are treated the same for ramdisk. It can be used with the floppy disk interface or without. It uses the new 32K byte static ram chips (62256-1P) and is supplied with 64K. More chips can be added for up to 256K. For 'AA' batteries provide battery backup for data retention.

PRICES ---
LKDOS EXTENDED BASIC cartridge \$65.00
400K System (Cartridge + 400K interface) \$199.00
(All prices) 2X-81 Disk Controller \$79.00
(are \$US) Ramdisk with 64K \$79.95
Disk ribbon Cable (1 drv) \$8.00
Disk Editor and Utilities (2068) (add \$5.50)

All products have a 90 day money back Guarantee

LARKEN ELECTRONICS
RR#2 NAVAN ONTARIO CANADA K4B-1H9 tel-(613)-835-2680

Jack Dehany
415-367-7781

JANUARY 1988

290 Ruthierford
Redwood City, CA 94061

Jack Dehany
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Redwood City, CA 94061

*** FAIRWARE CATALOG ***

Page 1 of 2
January 1988
415-367-7781

*** FAIRWARE NEWS ***

THE PURGE

So who's left? Did you get a Mac II for Christmas? I'm updating my mailing list. If you want to remain on it, please say so.

NEW CATALOG

I'm not budgeted to do mass-mailings of my catalog. It gets revised frequently. Whenever you want the latest FAIRWARE catalog, please send \$1 and a self-addressed stamped envelope.

1988

I plan to take the whole year off from my regular work (making wooden toys) and spend it writing (and selling) software for my favorite computer: the 2068. Yeah, it's scary. Will I starve!

ORDERS

When ordering, please use my current order blank. I have a hard time ferreting out from letters what it is that folks want, and what equipment they have. Every order is a custom order. I do my best to match my software to your equipment.

PRICES

Due to popular request and to my own economic needs, FAIRWARE programs are no longer sold by donation, but have set prices. Orders now should be prepaid. Your satisfaction is guaranteed: you may have a refund upon request for anything you get and can't use, except for the \$5 Media/Postage/Handling charge which is not refundable. You need not return media.

DISC

I now support ALL 2068 mass storage devices except RAMEX. (I suggest RAMEX owners get an LKDOS cartridge!). I'm looking for a used ZEBRA disc system. Got one for sale!

CUSTOMIZED MSCRIPT

V5.3 is done. It has 52 user-definable printer control-code sequences, easily imbedded in text. But it cannot use FONTMAN fonts. V6 will be able to use the fonts. V6 is still not done. I ran out of time to work on it last year. It will be done some time this year... I hope by April or May. Details upon request.

OTHER SOFTWARE IN THE WORKS:

-SUPERDRIVER: a package of software for big printers, to replace my inadequate Relocatable Aercro Print Driver V4.
It will fully support all printers and printer interfaces.
-BIGFONT: to enable creating, editing and using fonts of large detailed characters...NOT just blown-up 8X8 characters.
-ART: an "ultimate" graphics program, for mice etc.
-FLOW: a special-purpose graphics program, for flowcharting.

Your suggestions are always welcome. Happy 1988!

This is a list and brief description of currently-available FAIRWARE programs. Please also see the accompanying FAIRWARE INFORMATION sheet and FAIRWARE ORDER BLANK.

CUSTOMIZED MSCRIPT V5.3 (Copyright Micro Sytems Inc)

-You must be a legal MSCRIPT owner to get it.
-Features too numerous to list here; see separate sheet.
-V6 will be done sometime in 1988.

PRINTKIT

-Allows loading/printing of Mscript textfiles.
-Needed to print documentation accompanying FAIRWARE programs if you don't have Customized Mscript.

CONVERTM

-Converts to MSCRIPT textfile to/from BASIC array A\$.
-Entirely in BASIC.

RELOCATABLE AERCO PRINT DRIVER (V4)

-"Relocatable" means the machine-code driver may be loaded and used at more than just one area of memory, to avoid conflicts.
-Works on Spectrum or 2068.
-Soon to be replaced by Superdriver.

BASIC DISASSEMBLER

-Z80 disassembler written in BASIC.
-For students of machine code.

CAT

-Lists/prints file headers from cassette/A&J/AERCO disc.

LISTER

-Lists all or part of a BASIC program to screen or printer in a more legible way than provided by LIST or LLIST commands.

TOOLKIT for BASIC programmers

-Collection of short relocatable machine-code routines for: renumbering, compaction, killing REMs, and listing variables.

EZEDIT for BASIC programmers

-A large non-relocatable toolkit operating in Interrupt Mode 2.
-Functions: Renumber, Copy, Find, Auto Line Numbering, etc.
-Requires 10K data line resistors which Spectrum has and stock 2068 lacks. Instructions for adding resistors included.
-Similar to Beta Basic, but smaller, simpler and cheaper.

LOCAL AREA BBS NUMBERS
(UPDATED 21 DECEMBER, 1987)

NOTE: All hours are in twenty-four hour notation.
"?"s denotes a lack of information for that particular item.

BBS NAME	TELEPHONE #	BAUD	HOURS
Amide Developer's	(607)-754-5086	3/12/24	0-17
Back Door	(607)-748-7254	3/12/24	??-??
Bates Motel	(607)-789-7794	3/12/24	24 HRS
Blow-N-Go	(607)-648-2511	3/12	24 HRS
Broome Computer Union	(607)-798-1734	3/12	24 HRS
Cayuga Lake OPUS	(607)-387-9527	3/12/24	24 HRS
C.I.A.	(607)-524-0197	3/12	24 HRS
Cortland/Tomokins County	(607)-844-4475	3/12	24 HRS
Cygnus	(607)-729-5506	3/12/24	24 HRS
Front Door	(607)-785-8860	3/00	??-??
The Play Pen (Harry Net 11)	(607)-771-8654	3/12	24 HRS
In Your Head	(607)-729-5943	3/12/24	24 HRS
JR-TIME	(607)-748-7247	3/12/24	24 HRS
Mission Control	(607)-798-0973	3/12	24 HRS
Mr. Bill	(607)-772-0982	3/12	24 HRS
Master Bulletin Board	(607)-277-4850	3/12	18-6
Nitewing	(607)-687-3470	3/12/24	24 HRS
OFA-PC (NODE 1)	(607)-754-3420	3/12/24	24 HRS
OFA-PC (NODE 2)	(607)-687-4346	3/12	24 HRS
Opus Focus	(607)-772-8024	3/12	24 HRS
PC-Plus	(607)-785-6876	3/12/24	24 HRS
PC-TIE HOST	(607)-755-8195	3/12/24	24 HRS
Peanut Gallery	(607)-687-9910	??-??	21-6
River Rat	(607)-687-2241	3/12	24 HRS
Star Chamber	(607)-648-8183	3/12	24 HRS
S.T.R.C.C.	(607)-729-9559	3/12	24 HRS
T.C.C.S.	(607)-785-2118	3/12/24	24 HRS
Toys in the Attic	(607)-797-4522	3/12	24 HRS
Unicorn Haven	(607)-729-4655	3/12	18-7
XT Connection	(607)-625-4347	3/12/24	24 HRS

NEW SINCUS EXCHANGE TAPE
NOW AVAILABLE FOR OLIGER SYSTEM

SINCUS Exchange Tape #103 is now available. This tape will be offered in various media. It will be offered on cassette tape or on 5 1/4" disk for the Oliger Disk Drive system (SS or DS double density). The new offering, like the previous ones, is compilation of programs from SINCUS members, exchanges from other clubs, Computerve, and local bulletin boards. The cost for the tape or disk is \$4.00. To receive the exchange programs, send a \$4.00 check or money order and indicate whether you want the cassette or disk version to:

John Colonna
28 Guilfoyle Avenue
Binghamton, N.Y. 13903

P.S. One of our members has offered to also make the exchange tapes available on Larken disk for 5 1/4" DS DD. This also applies to Exchange Tapes #101 and #102 (See SINCUS NEWS Sept./Oct. 1987). This would be done at cost to members. If interested send your name to John Colonna and he will pass that info on to you. Now, now available on cassette. Oliger, and Larken!

SINCUS EXCHANGE TAPE # 103
- SIDE A -

No.	Name	Type	Size	Description
1	ANTHEM	Basic	3K	An appropriate musical start
2	CAPITALS 2	Basic	4K	Quiz on capitals or states at 16394, 6912
3	MALDREEN	Basic	10K	A bewitching game!
4	PAIRS	Basic	13K	Match 'em if you can
5	QUIZMSTR	Basic	8K	John Kealy quizzes you
6	SANTA BIL	Basic	7K	Help Santa with his reindeer
7	COIN DROP	Basic	11K	Count those Pence
8	HUMPHREY	Basic	5K	No job, another quiz-J. Kealy at 16394, 6912
9	SOJAN-T	Basic	5K	Now Joan is really cooking! at 16394, 6912
10	STOKVALU	Basic	3K	Floure your call St. worth
11	twok	Basic	1K	WERGE this to check listing
12	bahips	Basic	6K	Traditional 'Battleships' game
13	net worth	Basic	5K	What are you worth - 1
14	SINEMAVE	Basic	1K	Plotting of sineave
15	solitaire	Basic	8K	Traditional card game
16	seuire	Basic	13K	Game for joints
17	filed	Basic	2K	JLO loader-see NEW in line 230
18	flites	Basic	12K	Arcade rifle range

Please address any additions or corrections to this list to the SYSOP.

SYSDOPS: < >
PLEASE FORWARD ANY CORRECTIONS YOU SEE TO ME AT ANY OF THE FOLLOWING BBS'S
PC-TIE HOST
IN YOUR HEAD
TCCS
BROME COMPUTER UNION
TOYS IN THE ATTIC
OFA-PC

ALEX HAMVILLHULL
STELLAR BBS

LOCAL AREA BBS NUMBERS

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WANTED: Used TS2068s. Send your info to this newsletter, price, working/non-working. Name and address. Limited number of buyers, mail early!

Jan/Feb issue of Time Designs Magazine arrived yesterday, the editor, Tim Woods states that TDM will NOT go into covering IBM machines and clones there of. Hurray for Tim and TDM. We need support specific to the Sinclair/Amstrad machines. Using parts from other machines to enhance our computers would be great, and how to articles on both hardware and software. How to use software, written for the absolute beginner maybe of more help to many, I'm sure very few know how to use spreadsheet programs, and many have problems with interfacing a full size printer. There is a reader survey for you to input your ideas.

NEW STUFF:

256K RAM Boards- see Larken ad

Ask your favorite TS dealer about PC-Draw version 3.0, at \$19.95- make drawing of printed circuit boards suitable for photoetching!

LOTTO - new software! write to Knighted Computers

Jack Dohaney's new catalog- send a dollar and a self-addressed stamped envelop (SASE) to Jack Dohaney, 390 Rutherford Ave, Redwood City, CA 94061.

EPROM eraser- erases in 3 minutes-(24 and 28 pin)-\$34.95 write to The John Oliger Co., 11601 Whidbey Dr., Cumberland, IN 46229

Thanks to John Colonna, Hal Bellinson, Don Lamen for their help with this issue, and thanks to Bill Walker and Bill Tilley for the programs, they will be part of the next swap tape/disc. Watch out for the dreaded April fool's day programming tip! or article! Till next issue keep those cards and letters coming and stay healthy!